novasina
The Art of Precision Measurement

General catalogue AW

2012

Measurement instruments for:

Water activity in

Foodstuff / Food ingredients
Chemicals / Cosmetics /
Pharmaceuticals / Materials

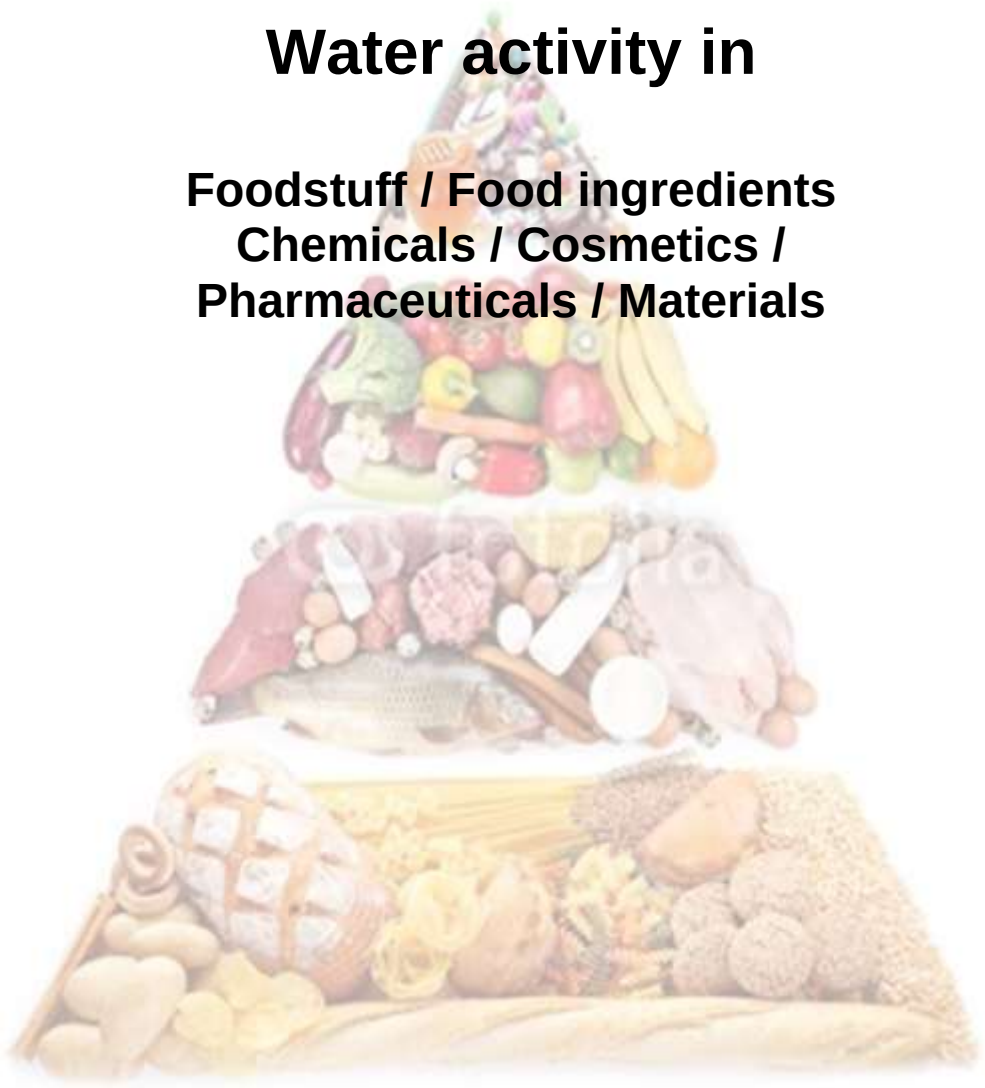

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Table of contents

Mobile water activity measurement instrument ms1 3
ms1 Set aw 3
ms1 Set M 4
Accessories for ms1 sets 6
Spare parts for ms1 sets 8
Options for ms1 sets 9
LabSwift-aw 12
LabSwift-aw sets 13
Accessories for LabSwift-aw 13
Spare parts for LabSwift-aw 15
LabTouch-aw 16
Accessories for LabTouch-aw 18
Spare parts for LabTouch-aw 19
LabMASTER-aw 21
Accessories for LabMASTER-aw 22
Multi-channel system with LabPartner-aw 23
Accessories for LabMASTER-aw & LabPartner-aw 24
Spare parts for LabMASTER-aw & LabPARTNER-aw 26
Upgrade Kits for LabMaster-aw 27
Software Update for LabMaster-aw 27

ms1 Set aw

A hand-held precision instrument for the measurement of aw values (water activity) in foodstuffs, pharmaceutical, chemical products as well as cosmetics.

A handy, easy-to-use, self-powered water activity measurement instrument set. Functions and accuracy can be checked at all times with saturated salt solution standards. The instrument is supplied in a practical plastic case, together with all required accessories.

aw range	:	**0.06 ... 0.98aw**, (*non condensing*)
Temperature	:	**-20...+80°C**
Sensor	:	enBSK-3 with a resistive electrolyte measurement cell
Precision	:	**+/- 0.01aw**, +/- 0.3°C
Communication	:	RS232 interface *(optional)*

ms1 Set aw

Precise, fast, flexible

A practical, 1'000-times proven precision hand-held measurement instrument for aw / relative humidity and temperature measurements. Thanks to the Novasina electrolyte sensor it is well-suited for precise aw measurements in many types of products. The instrument and its sensor are very robust, have excellent long-term stability and are practically hysteresis-free.

The large and clear LC display is very easy to read. The instrument is powered by a 9 V battery, but an additional mains power adapter is supplied to support long-term measurements. The sealed measurement probe cell is **not** temperature-controlled. The measuring chamber temperature is displayed at any time on the large LCD display. The instrument has a value stability trend display function. An optional RS-232 interface and supporting PC software is available for connecting a printer resp. a PC.

The instrument is delivered in a sturdy plastic carrying case with space for various additional accessories. Measurements can be made with the instrument in its case.

Examples of typical samples which can be measured:

- All forms of baked goods
- Meat, sausages and cheese
- Dried foodstuffs, fruit concentrates
- Cosmetics
- Pharmaceuticals, natural medicines
- Chemicals

Instrument ms1:

Dimensions : 54x43x265mm
Weight : 280 g
Power : 9V Battery

Humidity sensor:
Electrolyte-Measurement cell
Range : 0.06...0.98aw
Repeatability : +/- 0.003aw
Precision : +/- 0.01aw
(0.10...0.95aw, 25°C, with 5 point calibration)

Temperature sensor:
Precise NTC-Resistance
Range : -20...80°C
Repeatability : +/- 0.1° C
Precision : +/- 0.3° C

Humidity standards
Salt tablets SAL-T:
Saturated pure salt solutions, based on national standards are recommended:

see catalogue accessories

ms1 Set M

A hand-held precision instrument for the measurement of relative humidity of materials / the aw value (water activity of food-stuffs) and temperature.

For measurements of somewhat larger material samples, such as granulates, textiles, wood chips, sawdust, tobacco, tealeaves, herbs, potato crisps, biscuits, confectioneries, cereals, coffee beans etc. Relative humidity measurements can also be performed if the sensor is open. The sintered filter provides excellent dust protection.

Measurement range	:	**0.06 ... 0.98aw** (*non condensing)*
Temperature	:	**-20...+80°C**
Box sensor	:	HSM-3 with resistive electrolyte measurement cell CK-3
Precision	:	**+/- 0.01aw**, +/- 0.3°C
Communication	:	RS 232 interface (optional)

ms1 Set M

Precise, fast, flexible

A practical, 1'000 times proven precision, hand-held instrument for humidity and temperature measurements. Thanks to its Novasina electrolyte sensor, the ms1 is particularly well suited to high precision humidity measurements in a broad range of materials and also in air. The instrument and sensor are extremely robust, have excellent long-term stability and are essentially hysteresis-free.
The integrated computer supplements relative humidity measurements with a number of parameters of the Mollier hx-Diagram. The large and clear LCD display is easy to read. The instrument is battery powered, but an additional mains power supply is available to support long-term measurements. An optional RS 232 interface and supporting PC software is available for connecting a printer resp. a PC.

The instrument is delivered in a sturdy plastic carrying case with space for various additional accessories.

Examples of typical samples which can be measured:

- Relative humidity of plastic granulates
- Relative humidity of tea or tobacco leaves
- Relative humidity of Textile samples
- Relative humidity (or aw values) of foodstuffs, cereals coffee beans (see also Set AM und Set AMS)
- Room- or air duct humidity, dew point temperature etc.
- Cosmetics and drugs

Instrument ms1:

Dimensions : 54x43x265mm
Weight : 280 g
Power : 9V Battery

Humidity sensor:
Electrolyte measurement cell
Range : 0.06 ... 0.98 aw
Repeatability : +/- 0.003 aw
Precision :+/- 0.01 aw
(10...95% rh, 25°C, with 5 point calibration)

Temperature sensor:
Precise NTC-Resistance
Range : -20...80°C
Repeatability : +/- 0.1° C
Precision : +/- 0.3° C

Humidity standards
Salt tablets SAL-T:
Saturated pure salt solutions based on national standards are recommended:

see catalogue accessories

ms1 Set aw

111 0137 **ms1** Set **AW 230V**
111 0150 **ms1** Set **AW 115V**

ms1 Set aw

The Set aw is a simple and precise entry-level set for important aw value measurements in the food sector. It consists of an ms1 hand-held instrument with a sealed measurement chamber, and a range of accessories all housed in a robust plastic case. The latter also has space for the optional RS232 interface for attachment to a PC or printer. SAL-T humidity standards are included for testing and recalibrating the measurement cell as required.

Carrying case with:

- Measurement instrument ms1 aw
- Sensor enBSK-3/PP, with 0.5m cable
- 9V Battery
- 3 SAL-T: 11, 33, 75% rh
- 40 disposable sample dishes ePW
- Tweezers
- User manual
- Factory certificate of the 5-point calibration at 11-33-53-75-90%

Weight: 2.900 kgs

ms1 Set M

111 0511 **ms1 Set M**

ms1 Set M

The Set M is a simple and precise entry-level set for important aw value measurements in the food sector, particularly when larger volumes of samples are involved (%RH). It consists of an ms1 hand-held instrument with a large, special-purpose measurement sensor, and a range of accessories all housed in a robust plastic case. Space is available for further options, such as a power supply or interface/cable. The Set can be tested and recalibrated as required using individual Sensor Check humidity-standards.

Carrying case with:

- Measuring instrument ms1
- Sensor HSM-3, 1m cable with 9-pin plug
- 9V Battery
- Plastic rack for the ms1
- Sensor Check SC 75% rh
- Adapter CH
- Styrofoam box for calibration
- User manual
- Factory certificate of the 5-point calibration at 11-33-53-75-90%

Weight: 2.300 kgs

Accessories for ms1 sets

111 0826 **Interface PC**

Interface RS232

RS232 interface, 1m / 1,8m long cable, CD with software NOVALOG32 for Win 9x/2000/NT/XP.

Interface Set comprising:

- 1m cable with D-Sub 25/25-pin
- 1,8m cable with D-Sub 9F/25M pin
- RS-232 Interface
- CD with NOVALOG32 software for Windows systems
- User manual

Weight: 450g

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111 0562 **Interface Seiko**

RS232 interface for Seiko printer

RS-232 interface, 1m long cable to connect a Seiko **DPU 411** thermal printer. This makes it possible to control the printer using the printer parameters defined in the **ms1** menu.

-> The printer must be obtained locally

Printer-Interface-Set Seiko:

Printer cable : Flat cable

- 1m long printer cable with D-Sub 25/25-pin
- RS 232 interface
- Seiko adapter box

Weight : 300g

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111 6256 Adapter **25F/9M**

D-Sub adapter 25F/9M

Additional adapter for the RS232 Interface for Seiko printer (111 0562), permitting connection to the more recent Seiko **DPU 414** printer.

Adapter Interface:

Dimensions : 60 x 40 x 20 mm
Adapter D-Sub 25F/9M
25-pin female con.
9 - pin male con.

Weight: 50g

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111 0661 **Interface Epson**

RS232 interface for Epson printer

RS-232 interface, 1m long cable to connect an Epson or other compatible 9-pin needle printer. This makes it possible to control the printer using the printer parameters defined in the ms1 menu.

-> The printer must be obtained locally.

Printer-Interface-Set Epson:

Printer cable: Flat cable

- 1m long printer cable with D-Sub 25/25-pin
- RS 232 interface
- Epson adapter

Weight: 300g

- - - Example - Seiko Printer

Printer

A printer must be purchased locally.

> Novasina does not supply printers. <

Printers:

Portable printer for an easy direct connection to an ms1 hand-held instrument via a serial interface. A range of different printers can be supported by the ms1.

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111 8426 Seiko **Thermal paper**

Thermal paper replacement rolls

for **Seiko DPU 411, 414** printers.

Attention: This paper must be stored in a dark and dry place. This is thermal transfer paper only intended for Seiko printers.

Printer type: Seiko DPU 411, 414

Note: Set of 5 rolls, each 25m long

Thermal paper replacement:

Set of 5 rolls, each 25 m long.
Thermal paper for Seiko printer
Models DPU 411 and 414

Paper width 11cm
Weight: 850g each Set
Set of 5 rolls, each 25m long

111 0601 **ePW** sample dishes

ePW sample dishes

For an enBSK measurement chamber

Packet of 100 sample dishes for the sample sensor **enBSK-3.**

These are disposal, intended for a single use with any Novasina aw instrument

A package consists of:

100 sample dishes ePW

Material : Polypropylene

Dimensions : 40mm diameter
x 12mm deep

Weight : 440 g
for set aw

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111 0790 **SI** Set **BS**

SI, sorption isotherm set

for the BSK Sensor

This accessory, together with the Novasina humidity standards SAL-T, makes it possible to easily determine points of a sorption isotherm. (A precision balance and an oven are also required.)

***Prerequisite**: the laboratory room temperature must be kept absolutely constant.*

SI – Set BS complete with:

1 SI-ring BS
1 substance basket
1 weighing glass
1 pair of tongs

For precise determination of a sorption isotherm, the AW SPRINT or AW CENTER with temperature control should be used.

Weight: 280 g
for set aw

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111 1218 **Tweezers** for CK cells

Special tweezers

To simplify the exchange of a **CK** measuring cell in an **enBSK** measuring head.

Special-tweezer:

Material : stainless steel
For changing the humidity cell in an enBSK head

Weight: 20 g
for set aw

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111 0930 -> **SAL-T 11% rh**
111 0932 -> **SAL-T 33% rh**
111 0934 -> **SAL-T 53% rh**
111 0936 -> **SAL-T 75% rh**
111 0938 -> **SAL-T 90% rh**

SAL-T salt tablets

Humidity standards based on saturated salt solutions in plastic tablets with humidity-permeable membranes. Each salt is delivered in an airtight can. SAL-T are available with the following humidity values (at 25°C):

11,3 %	colour	white	
32.8 %	colour	blue	
52.9 %	colour	green	**(DG see general terms of sales)**
75.3 %	colour	purple	
90.1 %	colour	white	**(DG see general terms of sales)**

Humidity values in the temperature range 15° .... 30°C:

11.3 ..... 11.3% rh
33.3 ..... 32.4% rh
55.9 ..... 51.4% rh
75.6 ..... 75.1% rh
90.9 ..... 89.9% rh

The precision corresponds to the Greenspan Report 1977
typically +/- 0.3 % rh

Weight: 50 g a piece
for set aw

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111 1056 -> **SAL-T/C 11% rh**
111 1057 -> **SAL-T/C 33% rh**
111 1060 -> **SAL-T/C 53% rh**
111 1063 -> **SAL-T/C 75% rh**
111 1065 -> **SAL-T/C 90% rh**

SAL-T/C salt tablets EU

with European certificate

Humidity standards based on saturated salt solutions in plastic tablets with humidity-permeable membranes. Each salt is delivered in an airtight can. SAL-T are available with the following humidity values (at 25°C):

11,3 %	colour	white	
32.8 %	colour	blue	
52.9 %	colour	green	**(DG see general terms of sales)**
75.3 %	colour	purple	
90.1 %	colour	white	**(DG see general terms of sales)**

Internationally accredited laboratory

UKAS CALIBRATION

All Novasina humidity standards are also available with an internationally recognised certificate from an accredited European laboratory (UKAS England).

Weight: 50 g a piece
for set aw

111 0695 **Case with 5** SAL-T

Set of 5 SAL-T salt tablets

Humidity standards based on saturated salt solutions in plastic tablets with humidity-permeable membranes. Each salt is delivered in an airtight can. The set consists of a case containing one each of the following values (at 25°C):

11,3 % colour white
32.8 % colour blue
52.9 % colour green **(DG see general terms of sales)**
75.3 % colour violet
90.1 % colour white **(DG see general terms of sales)**

Case with 5 salt tablets:
SAL-T for 11 ... 90%rh

Humidity values in the temperature range 15° .... 30°C:

11.3 ..... 11.3% rh
33.3 ..... 32.4% rh
55.9 ..... 51.4% rh
75.6 ..... 75.1% rh
90.9 ..... 89.9% rh

The precision corresponds to the Greenspan Report 1977 typically +/- 0.3 % rh Weight: 670 g
for set aw

Prices see on the pricelist

Certification of an aw instrument

in an accredited European laboratory

A UKAS-laboratory will certify the instrument at two or more humidity values and at several different temperatures if required.

Internationally accredited laboratory

Certified instruments can be also supplied

111 1001 -> **eVC-21**
111 1003 -> **eVC-26**
111 7212 -> **Redox**
111 0995 -> **eVALC**
111 0997 -> **eVMT-2**
111 0999 -> **eVMS-2**

Cell protection filters

A number of filters are available to protect the measurement cell from abrasion or corrosive vapors.

-> Please consult the appropriate datasheets

Filters for enBSK head:

111 1001 -> eVC-21 (10 pieces)
111 1003 -> eVC-26 (10 pieces)
111 7212 -> Redox (1 piece)
111 0995 > eVALC (2 pieces)
111 0997 -> eVMT-2 (5 pieces)
111 0999 -> eVMS-2 (5 pieces)

Weight: 30 g
for set aw

Spare parts for ms1 sets

111 1083 **9V** battery

9V-battery

Alkali-manganese battery (not rechargeable)

This battery permits up to 25 hours of continuous operation.
If a rechargeable battery is used, an external charger is required. -> The ms1 cannot perform this function.

9V Battery for the ms1:

Alkali cell battery :

Battery 9V DC, 180mAh
A standard battery, available in most electronic shops
Max. storage time : 2 years
Weight: 50 g
for all sets

111 1564 **230V power supply**
111 1406 **115V power supply**

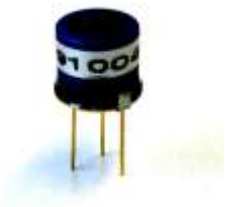
230V or 115V power supply

The power supply is recommended when the **ms1** is used for a long period in one place, or to preserve battery power when the RS 232 interface is extensively used.
The ms1 does not recharge batteries. If rechargeable batteries are used, an external charger is needed.

Power supply:

230V AC +/- 10% / 50-60Hz
115V AC +/- 5% / 50-60Hz

Output : 9 V DC / 16 mA
Power requirement: 0.4 VA
Plug : 4 mm diameter coax
Weight: 250 g
for all sets



111 1013 **CK-3** cell

CK-3 measurement cell

For theen HSM-3, enSARK-3, enCSK-3, enBSK-3
Humidity measurement cell with neither temperature measurement nor integrated saturation protection. The aluminium (SARK) or sinter (CSK) filter should be removed and the measurement cell replaced by hand. In no circumstances should, the filter surface on the top of the cell be touched by hand or a hard object.

-> Humidity measurement cell. The ms1 requires recalibration after cell replacement.

Humidity-Measurement cell CK-3:

Humidity measurement
Range : 6.....95 % rh
Attention : No saturation protection!
Repeatability: 0.3 % rh
Precision : +/- 1.0 % rh
(when calibrated on instrument on all 5-Points from 11 to 90%rh)

Weight: 1 g
for set aw & set M

110 6821 **enBSK-3**

enBSK-3 sample sensor

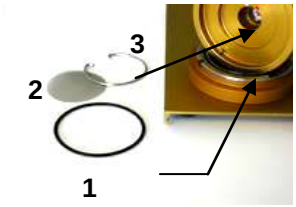
Ideal for small sample volumes.
For use with the measuring plate PP and the disposable sample dishes ePW.
The sensor consists of the head BSK, a humidity measurement cell CK-3, the NTC-temperature sensor and a metal mesh protection filter.

Sample sensor enBSK-3:

Material : Aluminum anodised

Weight : 240g

Connector : 9 pins
for set aw



111 1373 O-Ring : **1**
112 0175 Braided filter : **2**
111 0111 Tension ring : **3**

Replacement parts for “head BSK”

1 O-ring seal for the measurement chamber.
Recommendation: The O-ring should be periodically exchanged and lubricated with silicon grease.

2 Metal mesh filter for protection from particles.

3 Tension ring for clamping the filter(s).

Spare parts to enBSK:

- O-ring seal
- Mesh filter
- Tension ring

Weight: **1** 1 g
2 30 g
3 10 g
for set aw

111 0770 **Measurement plate**

Sample measuring plate PP

for enBSK-3

The product sample is placed in a sample dish ePW (111 0601), which is inserted in the sample measurement plate.

Measurement plate PP:
for enBSK sensor head

Dimensionens : 15 x 9 mm

Material : Anodised aluminium

Weight : 200 g
for set aw

110 6515 **Tweezers** for ePW

Tweezers

for ePW

To ease the removal of the sample dish ePW from the sample measurement plate PP.

Tweezers:

Material : stainless steel

Weight: 20 g
for set aw

Options for ms1 sets

110 7345 Adapter **CH**

SAL-SC Sensor check adapter CH

for sensors with diameter 13 mm

This adapter is needed for calibration of a system with sensor diameter 13 mm. It ensures an airtight fixation of a SAL-SC check to the sensor top (measurement cell area). It reduces the diameter of 20 mm to 13 mm and ensures an airtight seal.

-> The adapter should be first mounted on the sensor top and then putted the SAL-SC check on it. Both seals should be carefully checked, leaks will bias the calibration.

CH adapter to SAL-SC salts for sensors with diameter 13 mm:

Dimensions : 30 x 13 mm
Material : Polycarbonate, rubber

Weight : 5 g
for set M

with CK-3 measurement cell
252 4708 HSM-3 – 1m cable

HSM-3 sensor incl. sample box

Complete with the sample box large

Modern and light polycarbonate plastic sensor with a shaft diameter of 13mm. Inclusive exchangable resistive electrolyte measruing cell CK-3. Aluminium protective cap with a shaft diameter of 13mm and braided filter of rust-resistant steel. With a 350 ml one way plastic box for bigger sample volumes.

Accessories: 1 sample box

-> For SC calibration kit please use the Sensor Check adapter Nr. 1107345 (tightness)

HSM-3 Sensor incl. Box:

Dimensions Sensor: 160 x 13 mm
Dimensions Box 112 x 76 mm
Weight : approx. 200g
Measurement : AW and Temp
Connector : 9 –pin plug for the ms1
Power : passive
Outputs : Novasina specific
Protection :braided filter without membrane
for set M

252 5413 HSM-113–9-pin,1m cable

HSM-113 sensor

A small, and light water activity sensor in a polycarbonate plastic housing with 100mm tube length for large sample box. Shaft diameter of 13 mm. Without measurement cell and filter.
Only for ms1 set M available.

-> Please use the Sensor Check Adapter Nr. 1107345 for SC calibration to ensure the correct sealing.

HSM Sensor including plug:

Dimensions : 160 x 13 mm
Shaft length : 100 mm
Weight : 100 g
Measurement : AW and Temp
Connector : 9 –pin plug for the aw-Lab Set F
Power : passive
Outputs : Novasina specific
for set M

111 5343 Box Mounting Kit

Box mounting kit

Box mounting flange for HSM sensors. For easy, sealed mounting through probe boxes. The flange can be fixed by 3 screws The sensor can be removed at any time for recalibration.

-> Clamping range: 10 .... 14 mm

Duct mounting kit for HS:

Flange dimensions : 60 x 20 mm
Weight : 30 g
Clamping range : 10…14 mm
Available for larger sample box installation.
for set M

111 6330 Active charcoal filter

Filter protective cap with active charcoal *for the HSM sensor*

Aluminium filter protective cap for the HSM sensor. Incorporates a stainless steel metal web and an active charcoal insert. Provides optimal protection of the measurement cell from corrosive gases and industrial pollutants.

-> *The filter has a 12 um mesh size*

Active charcoal filter for HSM:

Filter dimensions : 28 x 13 mm
Weight : 15 g
Effect : mechanical protection
chemical protection
Nitrous oxide, oil-smoke, fine dust
amine, ethylene Particle size over : 12 um
for set M

111 6329 Metal webfilter

Metal-web filter *for the HSM sensor*

The standard filter protective cap for the HSM sensor. Made of aluminium woven material for highly demand-ing industrial applications, Provides good protection against dirt such as dust or larger particles in an indust-rial environment, but no protection against water spray. -> *The HSM is delivered with this filter*

Metal web filter for the HSM:

Filter dimensions: 25 x 13 mm
Weight : 10g
Effectiveness : Mech. protection
no chemical protection
Particle size above: 25 um
Supplied with the HSM sensor
for set M

252 4710 **sample box large**

Sample box large HSM-3/7

New large sample box for **HSM-3 box sensor.** (without screw connection)
These are disposals, intended for a single use with Novasina aw-Lab or ms-1 instrument with HSM sensor.

A large sample box contains:

1 new sample box
Material : Polypropylene
Dimensions: 112 x diam. 76 mm
Weight : 50 g
for set M

111 0885 -> **SAL-SC 11**
111 0855 -> **SAL-SC 33**
111 0857 -> **SAL-SC 53**
111 0859 -> **SAL-SC 75**
111 0896 -> **SAL-SC 90**

Sensor-Checks SAL-SC *(rh standards)*

Humidity standards based on saturated salt solutions in plastic cylinders with moisture permeable membranes. Each salt is delivered in a well-sealed box. Sensor Checks SAL-SC are obtainable for the following values (at 25°C) :

11.3 % rh colour white
32.8 % rh colour blue
52.9 % rh colour green **(DG see general terms of sales)**
75.3 % rh colour purple
90.1 % rh colour white **(DG see general terms of sales)**

Humidity values in the temperature range 15° .... 30°C:

11.3 ..... 11.3% rh
33.3 ..... 32.4% rh
55.9 ..... 51.4% rh
75.6 ..... 75.1% rh
90.9 ..... 89.9% rh

The precision corresponds to the Greenspan Report 1977 typically +/- 0.3 % rh

Weight : 90 g
for set AMS/M

111 1044 -> **SAL-SC 11 C**
111 1037 -> **SAL-SC 33 C**
111 1040 -> **SAL-SC 53 C**
111 1035 -> **SAL-SC 75 C**
111 1032 -> **SAL-SC 90 C**

Sensor-Checks SAL-SC EU with European certificate

Humidity standards based on saturated salt solutions in plastic cylinders with moisture permeable membranes. Each salt is delivered in a well-sealed box. SAL-SC are obtainable for the following values (at 25°C)

11.3 % rh colour white
32.8 % rh colour blue
52.9 % rh colour green **(DG see general terms of sales)**
75.3 % rh colour purple
90.1 % rh colour white **(DG see general terms of sales)**

Internationally accredited laboratory

All Novasina humidity standards can also be supplied with an internationally recognised certificate from an accredited European laboratory (UKAS England).

Weight : 90 g

111 7847 **Sensor-check set**

Set with 5 Sensor-Checks SAL-SC

Humidity standards based on saturated salt solutions in plastic cylinders with moisture permeable membranes. Each salt is delivered in a well-sealed box. SAL-SC are obtainable for the following values (at 25°C):

11.3 % rh colour white
32.8 % rh colour blue
52.9 % rh colour green **(DG see general terms of sales)**
75.3 % rh colour purple
90.1 % rh colour white **(DG see general terms of sales)**

Case with all 5 Sensor Checks from 11 to 90%rh:
Humidity values in the temperature range 15°... 30°C :

11.3 ..... 11.3% rh
33.3 ..... 32.4% rh
55.9 ..... 51.4% rh
75.6 ..... 75.1% rh
90.9 ..... 89.9% rh

The precision corresponds to the Greenspan Report 1977 typically +/- 0.3 % rh Weight : 900 g

111 3542 **Extension cable**

Extension cable for ms-1

1.5m long cable with 9-pin connectors for remote measurements with the ms1.

-> Use of the extension cable does not require recalibration of the instrument

Extension cable to ms1:

Extension cable: 1.5m
Weight: 120g
Connector: 9-pin special connectors for ms1and sensor.

111 0978 **enCK-3**

enCK-3 sensor

Sensor with resistive electrolyte humidity measurement cell CK-3 and integrated temperature sensor. Standard humidity sensor for the ms1.

A precise humidity and temperature sensor for 6..95 % rh (98% non-condensing) without internal saturation protection. The integrated, precise NTC temperature probe has a range of –20 to +80 °C. The humidity sensor is protected by an integrated chemical filter.

Information: recalibration of the ms1 at a minimum of two points is required when a sensor is replaced. High precision requires a 5-point calibration.

Sensor enCK-3:

Dimensions : 58 x 22mm
Weight : 10 g

Humidity measurement:
Range: 6.....95 % rh
Attention: No saturation protection!
Repeatability: 0.3 % rh
Precision: +/- 1.0 % rh
when calibrated on instrument on all 5-Points from 11 to 90%rh.

Temperature Measurement:
Range temp : -20...80°C
Repeatability : +/- 0.1° C
Precision : +/- 0.3° C

*Lab*Swift-aw

Portable precision instrument for measurement of the aw-value (water activity) of foodstuff, pharmaceutical and chemical products and cosmetics

This compact and handy water activity measurement device with optional rechargeable batteries can be easily used for mobile measurement of the important $\mathbf{a_w}$-value product quality parameter directly at-line. Its accuracy can be checked at any time using saturated salt standards. The ***Lab*Swift-aw** is delivered including the accessories in a handy carrying case..

Measurement range aw	**:**	**0.03 ... 1.00a_w**, *(non condensing)*
Measurement range temp.	**:**	**5 ... 45°C**
Sensor	**:**	with resistive-electrolytic measurement cell CM-2
Accuracy	**:**	**+/- 0.01 a_w**, +/- 0.3°K
Communication	**:**	**SD card -> PC**

*Lab*Swift-aw

Mobile, fast, accurate, reliable

The *Lab*Swift-aw instrument combines modern technology with measurement speed and high accuracy. Thanks to the Novasina electrolyte sensor the device is able to determine the aw-value very accurately in products of all kinds. Furthermore it is robust, stable and maintenance-free.

The integrated large LC-Display eases the value reading. The ergonomic design and the optional Lithium-Ions long life battery allows a mobile measurement. For stationary use an external power supply is available. The air-tight measurement chamber (not temperature controlled) disposes of a spring-loaded measurement head. The temperature can be read at any time on the display. The new developed stability value settings enable an easy handling for optimal aw measurements. The stability status is appears on the instrument's display. A data logging function by SD card permits a storage of all measurement data, including the protocols, which can be easily transferred to a PC or printer. A special software is available for a detailed analysis of these data.

The instrument is delivered with a robust plastic carrying case including accessories such as humidity standards, filters, ePW sample dishes etc..

Examples of typical samples which can be measured:

- Bakery products of all kinds
- Dried food, fruit concentrates
- Pharmaceutical products
- Chemical products
- Cosmetics
- Drugs, natural remedies

***Measurement device Lab*Swift-aw:**

Dimensions : 85x140x225 mm (HxWxL)
Weight : 1.2 kg
Power supply : External supply and/or Lithium-Ions battery (optional) 1700 mAh

Operation ranges:
Temperature : 5 ... 45 °C
a_w : 0.03 ... 0.95 a_w

Humidity sensor:

Electrolyte measurement cell
Type : CM-2 incl. stored calibration values *(11, 33, 58, 75, 90%RH)*
Measurement range: 0.03... 1.00a_w
Reproducibility : +/- 0.003 a_w
Accuracy : +/- 0.01 a_w
(0.10...0.95 aw at 25°C, all 5 points calibrated)

Temperature measurement:

Precision infrared surface sensor as well as NTC temperature sensor
Measurement range: 5 ...45°C
Reproducibility : +/- 0.1° K
Accuracy : +/- 0.15° K

Humidity standards
Salt tablets SAL-T:
Saturated pure salt solutions based on national standards are recommended:

see catalogue accessories

*Lab*Swift-*aw sets*

***Lab*Swift-aw set** (without battery)

LabSwift-aw set (without battery)
260 0177 incl. power supply

***Lab*Swift-aw set**

The new LabSwift-aw is a precise and handy instrument for the aw-value measurement of foodstuff, pharmaceuticals and cosmetics. It is delivered with a plastic carrying case including accessories. A SD-card interface enables the transfer of all measurement data to a PC or printer.

The device can be checked and adjusted at any time with the included SAL-T humidity standards.

LabSwift-aw set consisting of :

- Measurement device LabSwift-aw
- External universal power supply
- SD card
- 3 SAL-T: 11, 58, 84% RH
- 40 sample dishes ePW
- Spare pre-filters white (5 pcs)
- Tension ring
- Operating instructions
- Factory calibration certificate of the 6-point calibration 11-33-58-75-84-90%

Weight : 3.000 kgs

***Lab*Swift-aw Set** (with battery)

LabSwift-aw set (with battery)
2600179 incl. power supply

***Lab*Swift-aw set & BAT**

The new LabSwift-aw is a precise and handy instrument for the aw-value measurement of foodstuff, pharmaceuticals and cosmetics. The built in Lithium-Ions rechargeable battery allows mobile measurements. The set is delivered with a plastic carrying case including accessories.
A SD-card interface enables the transfer of all measurement data to a PC or printer.

The device can be checked and adjusted at any time with the included SAL-T humidity standards.

LabSwift-aw set consisting of :

- Measurement device LabSwift-aw
- External universal power supply
- Battery incl. electronics (built in)
- SD card
- 3 SAL-T: 11, 58, 84% RH
- 40 sample dishes ePW
- Spare pre-filters white (5 pcs)
- Tension ring
- Operating instructions
- Factory calibration certificate of the 6-point calibration 11-33-58-75-84-90%

Weight : 3.100 kgs

Accessories for *Lab*Swift-aw

External power supply
260 0505 with universal plug

External power supply with universal plug insert for all socket standards

Power supply and battery charger

Attention: Please use only the external power supply delivered by Novasina.

Power supply:

90-264 VAC / 50-60Hz

Output : 5 VDC / 10W

Plug : Stereo plug (instrument side) Diameter 4 mm

Weight : 130 g

260 0187 Battery set

Battery set to *Lab*Swift-aw

Lithium-Ions rechargeable battery & electronics

Optional battery set for mobile power supply of the LabSwift-aw. In continuous operation the LabSwift-aw runs >20 hours with this battery.

Attention: The assembly of the battery shall only be made by a qualified Novasina representative.

Battery set to LabSwift-aw:

Lithium-Ions rechargeable battery with electronics :

Battery with PCB
5VDC 1700 mAh

Weight : 50 g

PC software

This optional Windows software allows the analysis and graphical display of the data stored on the SD-card.

Consisting of:

CD with Novalog MC software for Windows system

Weight: 180g

260 0188 PC-SW Novalog MC

Sample dishes ePW

Box with 100 sample cups.

These cups are for all Novasina aw instruments. They are disposable, intended for a single use.

A box contains:

100 sample cups ePW

Material : Polypropylene

Dimensions : 40mm diameter
x 12mm depth
Weight : 440 g

111 0601 ePW sample dishes

SAL-T salt tablets

Humidity standards based on saturated salt solutions in plastic tablets with humidity-permeable membranes. Each salt is delivered in an airtight can. SAL-T are available with the following humidity values (at 25°C):

11.3 %	**colour**	**white**	
32.8 %	**colour**	**blue**	
57.6 %	**colour**	**white**	
75.3 %	**colour**	**purple**	
84.3 %	**colour**	**white**	
90.1 %	**colour**	**white**	**(DG see general terms of sales)**

Humidity values in the temperature range 15° .... 30°C:

11.3 ..... 11.3% rh
33.3 ..... 32.4% rh
60.7 ..... 56.0% rh
75.6 ..... 75.1% rh
85.9 ..... 83.6% rh
90.9 ..... 89.9% rh

The precision corresponds to eg. the Greenspan Report 1977
typically +/- 0.3 % rh

Weight: 50 g each

111 0930 -> SAL-T 11% RH
111 0932 -> SAL-T 33% RH
260 0189 -> SAL-T 58% RH
111 0936 -> SAL-T 75% RH
111 9886 -> SAL-T 84% RH
111 0938 -> SAL-T 90% RH

Salt tablets SAL-T/C certified *with European certificate*

Humidity standards based on saturated salt solutions in plastic tablets with humidity-permeable membranes. Each salt is delivered in an airtight can. SAL-T are available with the following humidity values (at 25°C):

11.3 %	**colour white**	
32.8 %	**colour blue**	
57.6 %	**colour white**	
75.3 %	**colour purple**	
84.3 %	**colour white**	
90.1 %	**colour white**	**(DG see general terms of sales)**

Internationally accredited laboratory:

UKAS CALIBRATION

All Novasina humidity standards are also available with an internationally recognised certificate from an accredited European laboratory (UKAS England)

Weight: 50g each

111 1056 -> SAL-T/C 11% RH
111 1057 -> SAL-T/C 33% RH
260 0190 -> SAL-T/C 58% RH
111 1063 -> SAL-T/C 75% RH
260 0276 -> SAL-T/C 84% RH
111 1065 -> SAL-T/C 90% RH

Set of 5 SAL-T salt tablets

Humidity standards based on saturated salt solutions in plastic tablets with humidity-permeable membranes. Each salt is delivered in an airtight can. The set consists of a case containing one each of the following values (at 25°C):

11.3 % colour white
32.8 % colour blue
57.6 % colour white
75.3 % colour violet
84.3 % colour white

Case with 5 salt tablets
SAL-T for 11 ... 90%rh.

Humidity values in the temperature range 15° .... 30°C:

11.3 ..... 11.3% rh
33.3 ..... 32.4% rh
60.7 ..... 56.0% rh
75.6 ..... 75.1% rh
85.9 ..... 83.6% rh

The precision corresponds to the Greenspan Report 1977
typically +/- 0.3 % rh

Weight: 670 g

260 0191 Carrying case with 5 pcs SAL-T

see price list UKAS certificate

Certification

of an aw measurement instrument in an accredited European laboratory

A UKAS-laboratory will certify the instrument at two or more humidity values and at several different temperatures if required.

Accredited lab:

Certified instruments can be also supplied.

111 1001 -> **eVC-21**
111 1003 -> **eVC-26**
111 0995 -> **eVALC**

Cell protection filters

A number of filters are available to protect the measurement cell from abrasion or corrosive vapours.

-> Please consult the appropriate datasheets

Cell protection filters:

111 1001 -> eVC-21 (10 pcs)
111 1003 -> eVC-26 (10 pcs)
111 0995 > eVALC (2 pcs)

Weight: 30 g

Spare parts for *Lab*Swift-aw

260 0211 **Gasket : 1**
260 0183 **Pre-filter white : 2**
260 0210 **Tension ring : 3**

Spare parts to measurement head *Lab*Swift-aw

1 Gasket to LabSwift-aw
Recommendation: Seal ring should be replaced regularly and should be lubricated with silicone.

2 Pre-filter white, 5 pcs

3 Tension ring for filter fixation

Spare parts to LabSwift-aw:

- Gasket
- Pre-filter white
- Tension ring

Weight : **1** : 10 g
2 : 10 g
3 : 5 g

260 0193 **SD card**

SD card to *Lab*Swift-aw

SD-card for measurement data and protocol storage. The data can be analysed by spreadsheet programs or by the optional Novalog MC PC-software.

Consisting of:

- SD memory card
- Blister

Weight: 6g

111 9983 **CM-2 meas. cell**

CM-2 measurement cell

Replaceable, calibrated measurement system with calibration point memory on the basis of the unique Novasina „Novalyte“ technology. The inbuilt active heating element avoids a condensation on the humidity sensing element.

Attention : *in no case touch the front area of the measurement cell. Neither with hands nor with any other object!*

Measurement system CM-2:

Meas. range	: 0.03…1.00a_w
corresponds	: 3...100% RH
Operating temp. (inside LabSwift)	: 5 … 45°C
Storage temp.	: 0…50°C
Storage humidity	: 10....80% RH not condensing
Meas. accuracy	: +/- 0.01 a_w +/- 1.0 % RH
Reproducibility	: +/- 0.003a_w
No internal temp. measurement	
Weight	: ca. 2 g

*Lab*Touch-aw

The new laboratory instrument WITH TOUCH-SCREEN for water activity measurement in foodstuff, drugs and cosmetic products.

Measurement device with touch-screen combined with a semi-temperature-stabilised measurement chamber for consistent and reproducible measurement results (aw-value).

The ***Lab*Touch-aw**, with its ergonomic design and the touch-screen, makes water activity measurements easier than ever before. Semi-temperature-control and active sample temperature measurements by an integrated infrared sensor, provide the highest possible reliability of measurements.

Measurement range aw	**:**	**0.03 ... 1.00a_w**, *(non condensing)*
Measurement range temp.	**:**	**5 ... 45°C**
Sensor	**:**	with resistive-electrolytic measurement cell CM-2
Accuracy	**:**	**+/- 0.005 a_w**, +/- 0.15°K
Communication	**:**	**SD card -> PC**

*Lab*Touch-aw

Fast, accurate, reliable, easy to operate

Experience the next generation of high quality water activity meters made by Novasina. Touch a new world, driven by the ease of use and fast menu access by a touch-screen combined with a semi-temperature-stabilised measurement chamber for consistent and reproducible measurement results (aw-value). The latest sensor and measurement technology coupled with re-useable humidity calibration standards provide a very economical solution to precision water activity measurements . Furthermore, the standards are an easy method for double-checking the instrument and sensor's high performance .

All measurement data, including the important protocols are stored on a SD card and can be transferred to a PC or printer. Special software is available for viewing results and analysis of the data. This assures confidence in readings for quality assurance and traceability of all measurement values.

The LabTouch-aw assures high accuracy and reproducibility, long-term stability, ease of use and an economical measurement system. Get ready for the new standard for aw-value measurement.

Examples of typical samples which can be measured:

- Bakery products of all kinds
- Processed meat (dried products)
- Dried food, fruit concentrates
- Pasta products
- Chemical products
- Cosmetics
- Dairy products (dried products, milk powder etc.)
- Pet food

Measurement device LabTouch-aw:

Dimensions : 105 x 200 x 300mm (HxWxL)
Touch-screen : 55 x 95mm (color LCD)
Weight : 2.8 kg
Power supply : External supply

Operation ranges:

Temperature : 5 ... 45 °C
a_w : 0.03 ... 1.00 a_w

Humidity sensor:

Electrolyte measurement cell
Type : CM-2 incl. stored calibration values
(11, 33, 58, 75,84, 90, 97%RH)

Total accuracy : +/- 0.005 a_w
(0.10...0.97 aw at 25°C, all points calibrated)

Temperature measurement:

Precision infrared surface sensor as well as NTC temperature sensor
Measurement range: 5 ...45°C
Accuracy : +/- 0.15° K

Meaasurement chamber temp. control:

Accuracy : +/- 0.05° K
Chamber temperature must be always +2°C above environmental temperature.

Humidity standards
Salt tablets SAL-T:
Saturated pure salt solutions based on national standards are recommended:

see catalogue accessories

*Lab*Touch-aw "BASIC"
single-channel

260 0775 *Lab*Touch-aw
"BASIC"

*Lab*Touch-aw *"BASIC"*

Bench-top laboratory measurement instrument with semi-temperature controlled measurement chamber and touch-screen.
Further functions:

- **Stability parameter, time & date displayed on LCD screen**
- **Semi-temperature-stabilized measurement chamber**
- **Re-usable SAL-T humidity standards**
- **Fast and precise thanks to "Novalyte" technology**
- **Specific chemical sensor protection filters available**
- **Calibration data is stored on the sensor**
- **Data logging function with SD card**
- **Factory calibration at 7 aW-value points**
- **Checking, testing and adjusting possibilities**
- **(SAL-T humidity standards)**

LabTouch includes::

- Measurement device LabTouch
- External universal power supply
- SD card
- 4 SAL-T: 33, 58, 75, 84% RH
- 40 sample dishes ePW
- Spare pre-filters white (5 pcs)
- Tension ring
- Operating instructions
- Factory calibration certificate of the 7-point calibration 11-33-58-75-84-90-97%

Weight : 2.800 kgs

*Lab*Touch-aw "ADVANCED"
multi-channel system

The flexible LabTouch-aw system can be also extended by max. 2 additional external LabClick-aw chambers. This offers a higher measurement capacity running 2 or 3 chambers contemporaneously. The calibration and calibration procedure is made by the main unit LabTouch-aw "ADVANCED". The external chambers are just plug & play and once connected to the main unit ready for operation.

260 0776 *Lab*Touch-aw
"ADVANCED"

*Lab*Touch-aw *"ADVANCED"*

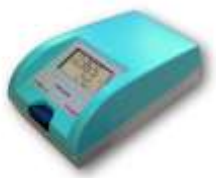
Bench-top laboratory measurement instrument with semi-temperature controlled measurement chamber and touch-screen.
Further functions:

- **Stability parameter, time & date displayed on LCD screen**
- **Semi-temperature-stabilized measurement chamber**
- **Re-usable SAL-T humidity standards**
- **Fast and precise thanks to "Novalyte" technology**
- **Specific chemical sensor protection filters available**
- **Calibration data is stored on the sensor**
- **Data logging function with SD card**
- **Factory calibration at 7 aW-value points**
- **Checking, testing and adjusting possibilities**
- **(SAL-T humidity standards)**
- **Option to connect max. 2 external chambers LabClick-aw**

LabTouch includes::

- Measurement device LabTouch
- External universal power supply
- SD card
- 4 SAL-T: 33, 58, 75, 84% RH
- 40 sample dishes ePW
- Spare pre-filters white (5 pcs)
- Tension ring
- Operating instructions
- Factory calibration certificate of the 7-point calibration 11-33-58-75-84-90-97%

Weight : 2.800 kgs



260 0838 *Lab*Click-aw

*Lab*Click-aw

External chamber with 2-line LCDisplay to be connected to a LabTouch-aw "ADVANCED" for extended measurement capacity. Operation and calibration is made by the main unit LabTouch-aw "ADVANCED".

Remark:
The LabClick-aw has NO semi-temperature-stabilized measurement chamber. Make sure the ambient temperature is stable during the measurement.

LabClick includes:

- Measurement device LabClick-aw
- External universal power supply
- Connection cable 1.8 m
- Operating instructions
- Factory calibration certificate of the 6-point calibration 11-33-58-75-84-90%

Weight : 1.600 kgs
Remark: suitable spare pre-filters, SAL-T and sample dishes are included with the LabTouch-aw

Accessories for *Lab*Touch-aw

External power supply
260 0505 with universal plug

External power supply with universal plug insert for all socket standards

Power supply and battery charger

Attention: Please use only the external power supply delivered by Novasina.

Power supply:

90-264 VAC / 50-60Hz

Output : 5 VDC / 10W

Plug : Stereo plug (instrument side) Diameter 4 mm

Weight : 130 g

260 0188 PC-SW Novalog MC

PC software

This optional Windows software allows the analysis and graphical display of the data stored on the SD-card.

Consisting of:

CD with Novalog MC software for Windows system

Weight: 180g

111 0601 ePW sample dishes

Sample dishes ePW

Box with 100 sample cups.

These cups are for all Novasina aw instruments. They are disposable, intended for a single use.

A box contains:

100 sample cups ePW

Material : Polypropylene

Dimensions : 40mm diameter x 12mm depth

Weight : 440 g

111 0930 -> **SAL-T 11% RH**
111 0932 -> **SAL-T 33% RH**
260 0189 -> **SAL-T 58% RH**
111 0936 -> **SAL-T 75% RH**
111 9886 -> **SAL-T 84% RH**
111 0938 -> **SAL-T 90% RH**
111 9887 -> **SAL-T 97% RH**

SAL-T salt tablets

Humidity standards based on saturated salt solutions in plastic tablets with humidity-permeable membranes. Each salt is delivered in an airtight can. SAL-T are available with the following humidity values (at 25°C):

11.3 %	**colour**	**white**	
32.8 %	**colour**	**blue**	
57.6 %	**colour**	**white**	
75.3 %	**colour**	**purple**	
84.3 %	**colour**	**white**	
90.1 %	**colour**	**white**	**(DG see general terms of sales)**
97.3 %	**colour**	**yellow**	

Humidity values in the temperature range 15° .... 30°C:

11.3 ..... 11.3% rh
33.3 ..... 32.4% rh
60.7 ..... 56.0% rh
75.6 ..... 75.1% rh
85.9 ..... 83.6% rh
90.9 ..... 89.9% rh
97.9 ..... 97.0% rh

The precision corresponds to eg. the Greenspan Report 1977 typically +/- 0.3 % rh

Weight: 50 g each

111 1056 -> **SAL-T/C 11% RH**
111 1057 -> **SAL-T/C 33% RH**
260 0190 -> **SAL-T/C 58% RH**
111 1063 -> **SAL-T/C 75% RH**
260 0276 -> **SAL-T/C 84% RH**
111 1065 -> **SAL-T/C 90% RH**
111 9981 -> **SAL-T/C 97% RH**

Salt tablets SAL-T/C certified *with European certificate*

Humidity standards based on saturated salt solutions in plastic tablets with humidity-permeable membranes. Each salt is delivered in an airtight can. SAL-T are available with the following humidity values (at 25°C):

11.3 %	**colour**	**white**	
32.8 %	**colour**	**blue**	
57.6 %	**colour**	**white**	
75.3 %	**colour**	**purple**	
84.3 %	**colour**	**white**	
90.1 %	**colour**	**white**	**(DG see general terms of sales)**
97.3 %	**colour**	**yellow**	

Internationally accredited laboratory:

UKAS CALIBRATION

All Novasina humidity standards are also available with an internationally recognised certificate from an accredited European laboratory (UKAS England)

Weight: 50g each

260 0191 **Carrying case with 5 pcs SAL-T**

Set of 5 SAL-T salt tablets

Humidity standards based on saturated salt solutions in plastic tablets with humidity-permeable membranes. Each salt is delivered in an airtight can. The set consists of a case containing one each of the following values (at 25°C):

11.3 %	**colour**	**white**
32.8 %	**colour**	**blue**
57.6 %	**colour**	**white**
75.3 %	**colour**	**violet**
84.3 %	**colour**	**white**

Case with 5 salt tablets
SAL-T for 11 ... 90%rh.

Humidity values in the temperature range 15° .... 30°C:

11.3 ..... 11.3% rh
33.3 ..... 32.4% rh
60.7 ..... 56.0% rh
75.6 ..... 75.1% rh
85.9 ..... 83.6% rh

The precision corresponds to the Greenspan Report 1977
typically +/- 0.3 % rh

Weight: 670 g

see price list UKAS certificate

Certification

of an aw measurement instrument in an accredited European laboratory

A UKAS-laboratory will certify the instrument at two or more humidity values and at several different temperatures if required.

Accredited lab:

Certified instruments can be also supplied.

111 1001 -> **eVC-21**
111 1003 -> **eVC-26**
111 0995 -> **eVALC**

Cell protection filters

A number of filters are available to protect the measurement cell from abrasion or corrosive vapours.

-> Please consult the appropriate datasheets

Cell protection filters:

111 1001 -> eVC-21 (10 pcs)
111 1003 -> eVC-26 (10 pcs)
111 0995 > eVALC (2 pcs)

Weight: 30 g

111 7212 -> **Redox**

Cell protection filter REDOX

A number of filters are available to protect the measurement cell from abrasion or corrosive vapours.

-> Please consult the appropriate datasheets

Cell protection filters:

111 7212 -> Redox (1 pc)

Spare parts for *Lab*Touch-aw

260 0211 **Gasket : 1**
260 0183 **Pre-filter white : 2**
260 0210 **Tension ring : 3**

Spare parts to measurement head LabTouch-aw

1 Gasket to LabSwift-aw
Recommendation: Seal ring should be replaced regularly and should be lubricated with silicone.

2 Pre-filter white, 5 pcs

3 Tension ring for filter fixation

Spare parts:

- Gasket
- Pre-filter white
- Tension ring

Weight : **1** : 10 g
2 : 10 g
3 : 5 g

260 0193 **SD card**

SD card

SD-card for measurement data and protocol storage. The data can be analysed by spreadsheet programs

Consisting of:

- SD memory card
- Blister

Weight: 6g

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111 9983

CM-2 measurement cell

CM-2 measurement cell

Replaceable, calibrated measurement system with calibration point memory on the basis of the unique Novasina „Novalyte“ technology. The inbuilt active heating element avoids a condensation on the humidity sensing element.

Remark : *also suitable for LabClick-aw*

Attention : *in no case touch the front area of the measurement cell. Neither with hands nor with any other object!*

Aw humidity measurement system CM-2:

Meas. range	: 0.03…1.00a_w
corresponds	: 3...100% RH
Operating temp. (inside LabSwift)	: 5 … 45°C
Storage temp.	: 0…50°C
Storage humidity	: 10....80% RH not condensing
Meas. accuracy	: +/- 0.01 a_w +/- 1.0 % RH (inside LabSwift at 25°C and fully calibrated)
Reproducibility	: +/- 0.003a_w
No internal temp. measurement	
Weight	: ca. 2 g

*Lab*MASTER-aw

A professional laboratory instrument for a very precise measurement of aw values (water activity) in foodstuff, drugs, cosmetics etc.. The temp. of the measurement chamber may be set in the range from 0°C to 50°C and kept consistently with an accuracy of +/-0.2K.

This instrument runs the most used aw measuring technology, the electrolytic resistive principle. The advantages are appreciated by all users around the world.

Measuring range aw	:	**0.03 ... 1.00aw**
Measurement chamber temperature	:	**selectable 0 ... 50°C, +/- 0.2K**
Sensor type	:	electrolytic resistive measurement cell CM-2
Accuracy	:	**+/- 0.003aw / 0.2°C at 25°C** when the system is calibrated at min. 6 points Repeatability **+/- 0.002aw**
Communication	:	RS-232 interface, PC software “Novalog MC”

*Lab*MASTER-aw

A synonym for high-precision, flexibility, versatility and measurement speed

Well-proven laboratory instrument for reproducible, precise aw measurements under accurately controlled temperature conditions for all types of foodstuffs, cosmetics as well as dry pharmaceutical materials. The ***Lab*MASTER-aw** is the only instrument that enables measurements under precisely controlled chamber temperature conditions, selectable in the following range: 0°C to 50°C, with an accuracy of 0.2K.

The device and its sensor are very robust and have an excellent long-term stability. The Novasina electrolytic resistive sensor delivers essentially hysteresis-free measurements. The implemented user management systems allows a simple and intuitive operation. The system is available in 3 different versions **“BASIC”** (single user),**”STANDARD”** (multi user) and **“ADVANCED”** (multi user and multi cannel). This improves considerably the cost efficiency .

The large, illuminated graphic LC display gives a clear overview. The menu software is simple and intuitive.

For a connection to a printer or a PC, a RS-232 or USB interface is build in the device. The visualisation PC-Software NOVALOG MC for Win9x/2000/NT/XP is included in the delivery (except for the “BASIC” version). A recorder can be connected to the 0…10 volt analogue output.

Examples of typical samples which can be measured:

- All kind of pastry and baked goods
- Meat, sausages, fish
- Cheese, dairy products
- Fruit concentrates, dried fruit
- Cosmetics (skin cream, lipstick etc.)
- Pharmaceutical products (powders, tablets, ointments etc.)
- Pet food

LabMASTER-aw instrument:

Surface area: width 26, depth 44 cm
Weight : 9.8 kg
Mains supply: 90V…260V, 50/60Hz, wide range power supply

***Humidity sensor*:**
Electrolyte measurement cell CM-2

Range	: 0.03...1.00aw in the range of 0…50°C.
Repeatability	: +/- 0.002aw
Accuracy	: +/- 0.003aw at 25°C *when fully calibrated*
Resolution	: 0.001aw / 0.1°C

Temperature sensor:
Precise NTC resistor

Range	: -20...80°C
Repeatability	: +/- 0.1° C
Accuracy	: +/- 0.3° C
Resolution	: 0.1°C

Humidity standards
Salt tablets SAL-T:
Saturated pure salt solutions based on national standards are recommended:

see catalogue accessories

*Lab*MASTER-aw

111 9971 *Lab*MASTER-aw
"BASIC"

*Lab*MASTER-aw *"BASIC"*

Robust laboratory precision measurement instrument with temperature controlled measurement chamber. With integrated pre-conditionning chamber.
Further functions:

- Stability parameter, time & date displayed on LCD screen
- Memory for the last 10 aW stable value for each data file
- Stability val time can be defined directly before measurement
- Setting of measurement alarm limits
- Calibration reminder function

BASIC version: single-measurement & single-USER

Attention: no power cable included. Please order it separately.

Instrument:

- Sensor CM-2
- 6 humidity standards SAL-T: 11, 33, 58, 75, 84 and 97% rh (incl. factory calibration certificate)
- 50 sample dishes ePW
- Operating instructions

Weight: 9.800 kgs
Ground surface: 26 x 44 cm (WxL)

standard

111 9972 *Lab*MASTER-aw
"STANDARD"

*Lab*MASTER-aw *"STANDARD"*

Robust laboratory precision measurement instrument with temperature controlled measurement chamber. With integrated pre-conditionning chamber.
Further functions:

- Stability parameter, time & date displayed on LCD screen
- Memory for the last 10 aW stable value for each data file
- Stability val time can be defined directly before measurement
- Setting of measurement alarm limits
- Calibration reminder function
- Graphic display of aW measurement curve on LCD screen

STANDARD version: single-measurement & multi-USER

Attention: no power cable included. Please order it separately.

Instrument:

- Sensor CM-2
- 6 humidity standards SAL-T: 11, 33, 58, 75, 84 and 97% rh (incl. factory calibration certificate)
- 50 sample dishes ePW
- RS232 interface, PC cable 1.8m D-Sub 9M/9F, USB port & cable
- NovalogMC PC visual. software for Win9x/2000/NT/XP
- Operating instructions

Weight: 9.800 kgs
Ground surface: 26 x 44 cm (WxL)

Accessories for *Lab*MASTER-aw

110 8568 Power cable CH : **1**
110 8304 EU/Schuko : **2**
111 1748 Japan and USA : **3**

Mains power cables

*For connecting a Lab*MASTER-aw

Configured with the standard instrument connector at one end and the locally required power plug at the other.

Please order with the country code and plug type.

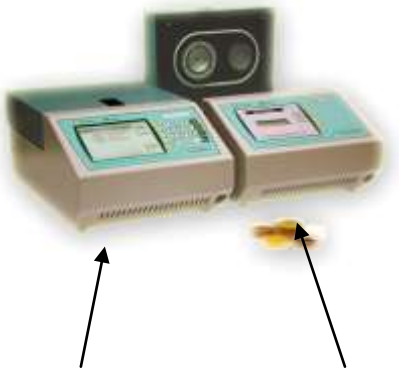
Power cable:

Cable length : 1.5 m

For local power systems with appropriate plugs.

Weight: 260 g

Multi-channel system with *Lab*Partner-aw



***Lab*Master-aw** **_Lab_Partner-aw**

This professional laboratory instrument system allows to run from **2** to a maximum of **10** aw (water activity) measurement devices simultaneously for measuring the aw values in foodstuff, drugs and cosmetics:

1 *Lab*MASTER-aw *"ADVANCED"* runs from **1 to 9 *Lab*PARTNE*R*-aw** units.

The temperature of each chamber can be set in the range from 0°C to 50°C.

The "ADVANCED" instrument version completes ideally the *Lab*MASTER-aw "BASIC" and "STANDARD". It allows an extension at any time and offer an outstanding cost efficiency.

Measuring range aw	:	**0.03 ... 1.00 aw**
Measurement chamber temperature	:	**selectable 0 ... 50°C +/- 0.2K**
Sensor type	:	electrolyte resistive measurement cell CM-2
Accuracy	:	**+/- 0.003aw, 0.2°C at 2°C** when the system is calibrated at min. 6 points
Repeatability	:	+/- 0.002aw
Communication per channel	:	RS-232 or USB interface, PC-Software Novalog MC for single channel monitoring

Multi-Channel System (*Lab*Partner-aw)

Highest flexibility and cost efficiency at any time

The *Lab*MASTER-aw series is a new laboratory instrument generation with the flexibility to add single channels, depending on your needs. Each channel provides reproducible and accurate aw value measurements in various types of samples. This makes the system very flexible and versatile with the possibility of extension at any time.

LabMASTER/LabPARTNER-aw sensors are very robust, excel in long-term stability characteristics and have been specifically developed for continuous operation. The unique properties of the electrolytic resistive sensors with their lack of hysteresis through the complete system yield very exact and reproducible measurements.

All measured values on each channel are displayed on a large, clearly arranged illuminated LC-Display. Each channel can be configured individually and optimised using a menu-driven procedure. The ***Lab*MASTER-aw *"ADVANCED"*** includes a RS-232 or USB interface for the communication with a PC. The single channel software Novalog MC is included in the delivery of this device.

Examples of typical samples which can be measured:

- same as for LabMaster-aw

Multi-Channel System:

***Lab*MASTER-aw instrument:**
Mains supply: 90V…260V, 50/60Hz, wide range power supply *Lab*Partner is powered by the *Lab*Master

***Lab*MASTER / *Lab*PARTNER-aw:**
Surface area: width 26, depth 44 cm
Weight : 9.8 kg

***Humidity sensor*:**
Electrolyte measurement cell CM-2

Range	: 0.03...1.00aw in the range of 0…50°C.
Repeatability	: +/- 0.002aw
Accuracy	: +/- 0.003aw at 25°C *when fully calibrated*
Resolution	: 0.001aw / 0.1°C

Temperature sensor:
Precise NTC resistor

Range	: -20...80°C
Repeatability	: +/- 0.1° C
Accuracy	: +/- 0.3° C
Resolution	: 0.1°C

Humidity standards
Salt tablets SAL-T:
Saturated pure salt solutions based on national standards are recommended:

see catalogue accessories

Multi-Channel System

111 9973 *Lab*MASTER-aw
"ADVANCED"

*Lab*MASTER-aw *"ADVANCED"*

Robust laboratory precision measurement instrument with temperature controlled measurement chamber. With integrated pre-conditionning chamber.
Further functions:

- **Stability parameter, time & date displayed on LCD screen**
- **Memory for the last 10 aW stable value for each data file**
- **Stability val time can be defined directly before measurement**
- **Setting of measurement alarm limits**
- **Calibration reminder function**
- **Graphic display of aW measurement curve on LCD screen**

ADVANCED version: multi-measurement & multi-USER

Attention: no power cable included. Please order it separately.

Instrument:

- Sensor CM-2
- 6 humidity standards SAL-T: 11, 33, 58, 75, 84 and 97% rh (incl. factory calibration certificate)
- 50 sample dishes ePW
- RS232 interface, PC cable 1.8m D-Sub 9M/9F, USB port and cable
- NovalogMC PC visual. software for Win9x/2000/NT/XP
- Operating instructions
- certificate of the 6 point factory calibration 11-33-58-75-84-97%.

Weight: 9.800 kgs
Ground surface: 26 x 44 cm (WxL)

111 9974 *Lab*PARTNER-aw

Additional channels:

*Lab*PARTNER-aw

A robust laboratory instrument with highly-sensitive humidity and temperature sensors, temperature controlled measurement chamber. With integrated pre-conditionning chamber.

***A power supply cable and a communication cable are provided to connect this instrument to the Lab*MASTER-aw *or to another Lab*PARTNER-aw.**

Instrument:

- Sensor CM-2
- 50 sample dishes ePW
- Operating instructions
- certificate of the 6 point factory calibration 11-33-58-75-84-97%.

Weight: 9.800 kgs
Ground surface: 26 x 44 cm (WxL)

Accessories for *Lab*MASTER-aw & *Lab*Partner-aw

110 8568 Power cable CH : **1**
110 8304 EU/Schuko : **2**
111 1748 Japan and USA : **3**

Mains power cables

*For connecting a Lab*MASTER-aw

Configured with the standard instrument connector at one end and the locally required power plug at the other.

Please order with the country code and plug type.

Power cable:

Cable length : 1.5 m

For local power systems with appropriate plugs.

Weight: 260 g

111 9979 SI Set Master

SI, sorption isotherm set

*for the Lab*MASTER-aw *and Lab*PARTNER-aw

This accessory, together with the Novasina humidity standards SAL-T, makes it possible to easily determine several points of a sorption isotherm. Incl. a plastic case for transportation.

In addition, a precision balance and an oven are required.

SI-Set* MASTER/PARTNER *complete with:

1 large cup insert
1 substance basket
1 weighing glass
1 pair of tongs

Cell protection filters

*for all Lab*MASTER-aw *and Lab*PARTNER-aw.

A number of filters is available to protect the measurement cell from aggressive vapours or abrasion.
-> Please consult the appropriate datasheets

Filters:

eVC-21 (10 pieces)
eVC-26 (10 pieces)
Redox (1 piece)
eVALC (2 pieces)
eVMT-2 (5 pieces)
eVMS-2 (5 pieces)

Weight: 30 g

111 1001 -> eVC-21
111 1003 -> eVC-26
111 7212 -> Redox
111 0995 -> eVALC
111 0997 -> eVMT-2
111 0999 -> eVMS-2

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111 0601 ePW sample dishes

Sample dishes ePW

*For all Lab*MASTER-aw *and Lab*PARTNER-aw

Box with 100 sample cups.

These cups are for all Novasina aw instruments. They are disposable, intended for a single use.

A box contains:

100 sample cups ePW

Material : Polypropylene

Dimensions : 40mm diameter
x 12mm depth

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111 7440 -> **SAL-T 4% rh**
111 6453 -> **SAL-T 6% rh**
111 0930 -> **SAL-T 11% rh**
111 0932 -> **SAL-T 33% rh**
111 0934 -> **SAL-T 53% rh**
260 0186 -> **SAL-T 58% rh**
111 0936 -> **SAL-T 75% rh**
111 9886 -> **SAL-T 84% rh**
111 0938 -> **SAL-T 90% rh**
111 9887 -> **SAL-T 97% rh**

SAL-T salt tablets

Humidity standards based on saturated salt solutions in plastic tablets with humidity-permeable membranes. Each salt is delivered in an airtight can. SAL-T are available with the following humidity values (at 25°C):

3.4 % colour	**white**	**(DG see general terms of sales)**
6.4 % colour	**white**	
11.3 % colour	**white**	
32.8 % colour	**blue**	
52.9 % colour	**green**	**(DG see general terms of sales)**
57.6% colour	**white**	
75.3 % colour	**purple**	
84.3 % colour	**white**	
90.1 % colour	**white**	**(DG see general terms of sales)**
97.3 % colour	**yellow**	

Humidity values in the temperature range 15° .... 30°C:

4.3 ..... 3.0% rh
6.9 ..... 6.2% rh
11.3 ..... 11.3% rh
33.3 ..... 32.4% rh
55.9 ..... 51.4% rh
60.7 ..... 56.0% rh
75.6 ..... 75.1% rh
85.9 ..... 83.6% rh
90.9 ..... 89.9% rh
97.9 ..... 97.0% rh

The precision corresponds to eg. the Greenspan Report 1977 typically +/- 0.3 % rh

Weight: 50 g

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252 5418 **Case with 6** Stk SAL-T for *Lab*Master and *Lab*Partner-aw

Set of 6 SAL-T salt tablets

Humidity standards based on saturated salt solutions in plastic tablets with humidity-permeable membranes. Each salt is delivered in an airtight can. The set consists of a case containing one each of the following values (at 25°C):

11.3 % colour	**white**
32.8 % colour	**blue**
57.6% colour	**white**
75.3 % colour	**purple**
84.3 % colour	**white**
97.3 % colour	**yellow**

Case with 6 salt tablets
SAL-T for 11 ... 97%rh.

Humidity values in the temperature range 15° .... 30°C:

11.3 ..... 11.3% rh
33.3 ..... 32.4% rh
60.7 ..... 56.0% rh
75.6 ..... 75.1% rh
85.9 ..... 83.6% rh
97.9 ..... 97.0% rh

The precision corresponds to the Greenspan Report 1977 typically +/- 0.3 % rh

Weight: 710 g

Salt tablets SAL-T/C certified *with European certificate*

Humidity standards based on saturated salt solutions in plastic tablets with humidity-permeable membranes. Each salt is delivered in an airtight can. SAL-T are available with the following humidity values (at 25°C):

6.4 % colour	**white**	
11.3 % colour	**white**	
32.8 % colour	**blue**	
52.9 % colour	**green**	**(DG see general terms of sales)**
57.6 % colour	**white**	
75.3 % colour	**purple**	
84.3 % colour	**white**	
90.1 % colour	**white**	**(DG see general terms of sales)**
97.3 % colour	**yellow**	

111 7000 -> **SAL-T/C 6% rh**
111 1056 -> **SAL-T/C 11% rh**
111 1057 -> **SAL-T/C 33% rh**
111 1060 -> **SAL-T/C 53% rh**
260 0190 -> **SAL-T/C 58% rh**
111 1063 -> **SAL-T/C 75% rh**
260 0276 -> **SAL-T/C 84% rh**
111 1065 -> **SAL-T/C 90% rh**
111 9981 -> **SAL-T/C 97% rh**

Internationally accredited laboratory:

All Novasina humidity standards are also available with an internationally recognised certificate from an accredited European laboratory (UKAS England)

Weight: 50g

Prices see on the pricelist

Certification

of an aw measurement instrument in an accredited European laboratory

A UKAS-laboratory will certify the instrument at two or more humidity values and at several different temperatures if required.

Accredited lab:

Certified instruments can also be supplied.

Spare parts for *Lab*MASTER-aw & *Lab*PARTNER-aw

111 9983 CM-2 measuring cell

CM-2 replacement cell

Humidity measurement cell without temperature sensor, with active saturation protection.
The measurement cell can easily be exchanged by hand. The filter surface on the top of the cell should under no circumstances be touched with the hand or hard objects.

Advantage: *the instrument requires no recalibration after changing a cell: all data are stored in the cell memory.*

Measurement cell CM-2:

Range	: 0.03aw…1.00aw (3...100% rh)
Op.temp.range	: 0…50°C
Storage temp.	: 0…50°C
Storage hum.	: 10…80% RH not condensing
Accuracy	: +/- 0.003aw
Accuracy	: +/- 0.3 % rh
(in LabMaster when fully calibrated)	
Reproducibility	: +/- 0.002a_w
Weight	: ca. 2 g

112 0174 O-Ring : **1**
112 0175 Metal mesh filter: **2**
260 0210 Tension ring : **3**

Replacement parts for measuring chamber

1 O-ring seal for the measurement chamber.
Recommendation: exchange the O-ring periodically.

2 Metal mesh filter.

3 Tension ring for clamping the filter.

Chamber replacement parts:

- O-ring seal Weight: 1 g
- Metal mesh filter Weight: 30 g
- Tension ring Weight: 10 g

Upgrade Kits for *Lab*Master-aw

111 9975 License

Upgrade License 1 "BASIC-STANDARD"

to upgrade a *Lab*MASTER-aw *basic*

to a *Lab*MASTER-aw *standard.*

with functionality extension code,
PC software NovalogMC, cable 1.8m D-Sub 9M/9F, and USB cable 1.8m.

License 1

Software code for activating the additional software function from

BASIC to STANDARD

- Single to multi user management system
- PC-Tool NovaLog MC Software

111 9976 License

Upgrade License 2 "STANDARD-ADVANCED"

to upgrade a *Lab*MASTER-aw *standard*

to a *Lab*MASTER-aw *advanced.*

with functionality extension code to control up to 9 additional *Lab*PARTNER-aw units.

License 2

Software code for activating the additional software function from

STANDARD to ADVANCED

- Single chamber to multi chamber system with *Lab*Partner-aw.

112 0171 License

Upgrade License 3 "BASIC-ADVANCED"

to upgrade a *Lab*MASTER-aw *basic*

to a *Lab*MASTER-aw *advanced.*

with PC software NovalogMC, cable 1.8m D-Sub 9M/9F, USB cable 1.8m, and with functionality extension code to control up to 9 additional *Lab*PARTNER-aw units.

License 3

Software code for activating the additional software function from

BASIC to ADVANCED

- single to multi user management system
- PC-Tool NovaLog MC Software
- single to multi chamber system with *Lab*Partner-aw.

Software Update for *Lab*Master-aw

260 0275 Update package

Update software package for LabMaster STANDARD & ADVANCED models

Software package including update code for ***Lab*Master-aw STANDARD & ADVANCED** models. Applicable for instruments sold before the year 2010 with serial no. :

05….. / 06….. / 07….. / 08….. / 09…..

So the LabMaster-aw instrument can be updated to the newest level and the user can benefit from the following extended functions.

Additional functions:

- Stability parameter is displayed on instrument LCD screen flashing alternately
- Actual time and date is displayed on instrument LCD screen flashing alternately
- Memory of the last 10 aW stable values for each data file (provided that the data base is used actively)
- Stable value time can be set directly before performing the measurement (faster adaptation in case of sample change)
- Selectable upper and lower alarm limits for measurement
- Calibration reminder function
- Graphical display of aW measurement curve on instrument LCD screen

***Update software package*: *Lab*Master-aw :**

- Software package incl. update activation code for extended functions for

STANDARD

and

ADVANCED

models